

SAFETY UPDATE



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Are portable fire extinguishers effective on LPG fires?

The other day while inspecting a class 4 licensee (dispensing unit) I was asked “why do you require a fire extinguisher at the dispenser? If the tank catches on fire that extinguisher won’t do you any good”. While it is true that an 18 lb. B:C rated fire extinguisher (required per NFPA 58) would not be effective against a dispensing unit tank fully involved in fire, it is important to remember that this is not its intended use. The 18 lb. B:C fire extinguisher that is required at all distributing points is intended to extinguish a small fire at the point of transfer before it gets out of control and involves the tank

WARNING:

Do not extinguish an LP-Gas fire if you can not stop the flow of gas after the fire is extinguished. The escaping gas will continue to build up and if it finds a source of ignition it may re-ignite explosively.

I’m going to give you two examples of a typical fire scenario at a dispensing station, one dispensing station has an 18

lb. B:C fire extinguisher and one does not:

Example 1

Sarah is dispensing propane into an RV. The pump is running, the fixed liquid level gauge is open and venting propane vapor into the atmosphere. All of the sudden there is a flash and the venting gas is on fire..... Sarah is startled and jumps back, she immediately shuts off the pump and grabs the fire extinguisher at the dispensing station and extinguishes the burning gas. She then closes the fixed liquid level gauge and the hose end valve before the escaping gas has the opportunity to reignite.

Total time elapsed: 10 seconds.
Total damage: \$0

Example 2

Sarah is dispensing propane into an RV. The pump is running, the fixed liquid level gauge is open and venting propane vapor into the atmosphere. All of the sudden there is a flash and the venting gas is on fire..... Sarah is startled and jumps back, she immediately shuts off the pump and runs to the office to get a fire extinguisher..... after some searching she finds a small extinguisher a runs back to the RV..... the fire has spread into the RV and the fire extinguisher is too small to be effective..... Sarah rushes back to the office and calls the fire department..... by the time they arrive the RV is fully involved in fire....the news crew arrives in time to catch it all on film. The fire is extinguished and no one is seriously injured, but the top story on the 6 o’clock news is “Propane explosion threatens town”

Total time elapsed: 4 hours
Total damage: \$95,000

It is easy to see why it is important to have a fire extinguisher at the dispensing station. But keep in mind that it is equally important to have the correct size and rated fire extinguisher. If it is too small, or the wrong type, you may not be able to extinguish the fire completely.

Portable fire extinguishers are classified according to their intended use on the four classes of fires (A = ordinary combustibles, B = flammable liquids, C = energized electrical equipment, and D = combustible metals). They are also rated by the amount of fire they can extinguish. A non-expert operator using a class "B" extinguisher with a rating of "80" can be expected to put out a flammable liquid fire 80 square feet in size.

NFPA 58 (2001) section 3.10.2.4 requires that "Each industrial plant, bulk plant, and distributing point shall be provided with at least one approved portable fire extinguisher having a minimum capacity of 18 lb (8.2 kg) of dry chemical with a B:C rating."

It is important to note that NFPA 58 requires a "B:C" rating not an "A:B:C" rating. B:C extinguishers contain a different extinguishing agent than is found in A:B:C extinguishers. Also 18 lbs. of dry chemical is required, do not confuse this with the rating of "18" (18 lbs. of dry chemical will give you an approximate rating of "80"). 18 lb. B:C fire extinguishers can be purchased from your local fire extinguisher service/supply company.

So far this year 43% of my inspections were cited for having the incorrect size fire extinguisher or no fire extinguisher at all.

Plan ahead and check those extinguishers..... somebody's life may depend on it.